FIG.1

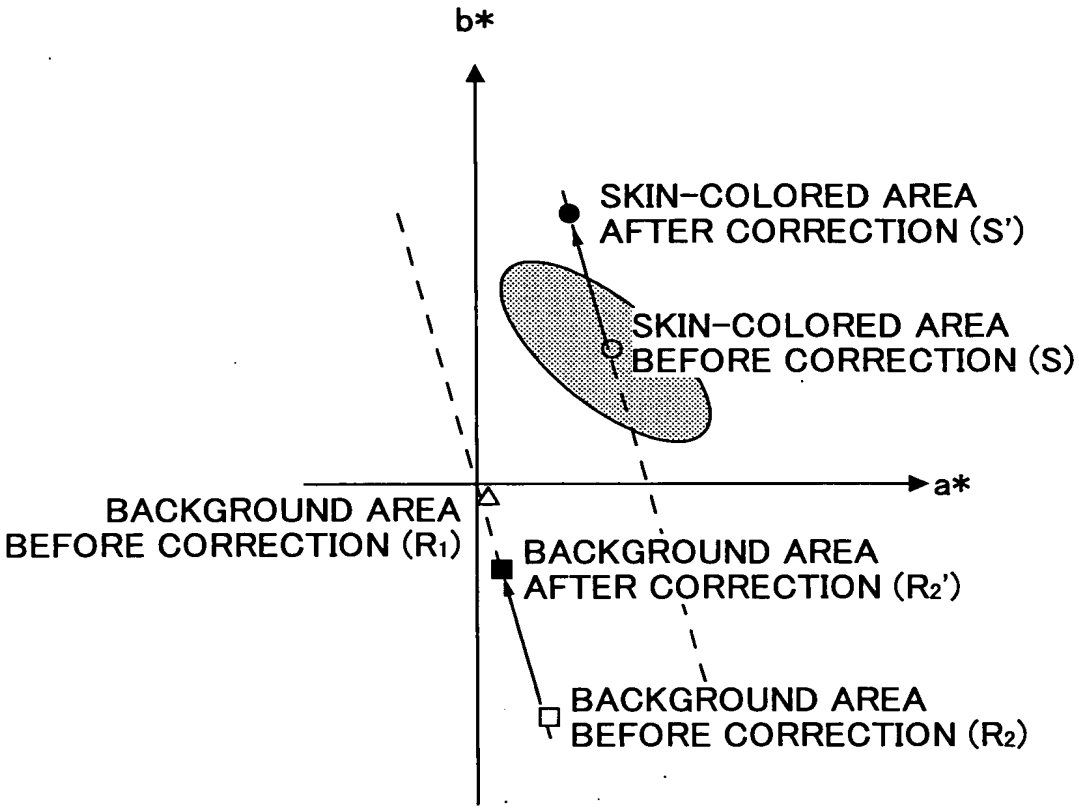

b*
a*
SKIN-COLORED AREA
AFTER CORRECTION (S')
SKIN-COLORED AREA
BEFORE CORRECTION (S)
BACKGROUND AREA
BEFORE CORRECTION (R1)
BACKGROUND AREA
AFTER CORRECTION (R2')
BACKGROUND AREA
BEFORE CORRECTION (R2)

FIG.2

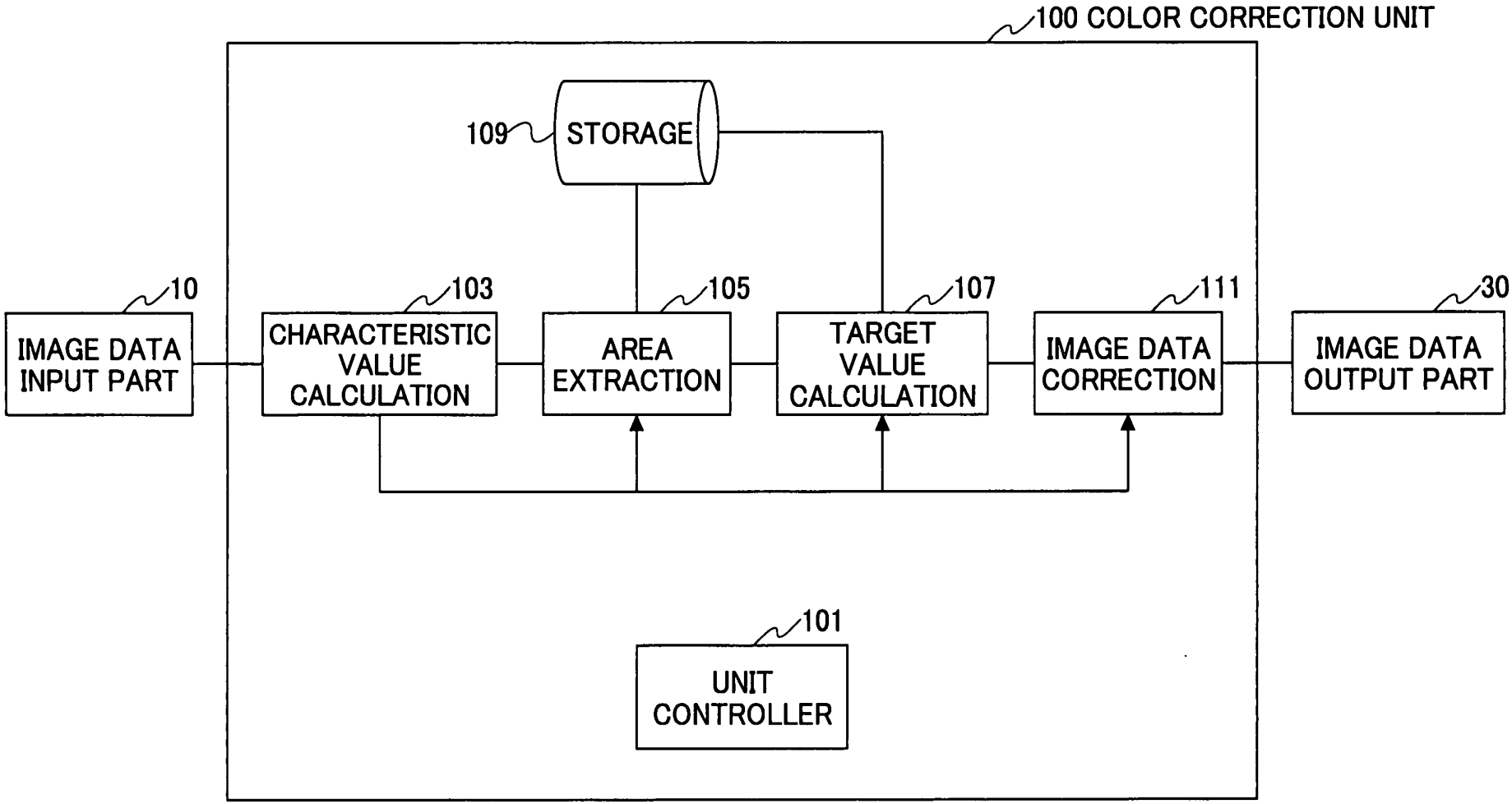

100 COLOR CORRECTION UNIT
109
STORAGE
10
IMAGE DATA INPUT PART
103
CHARACTERISTIC VALUE CALCULATION
105
AREA EXTRACTION
107
TARGET VALUE CALCULATION
111
IMAGE DATA CORRECTION
30
IMAGE DATA OUTPUT PART
101
UNIT CONTROLLER

FIG.3

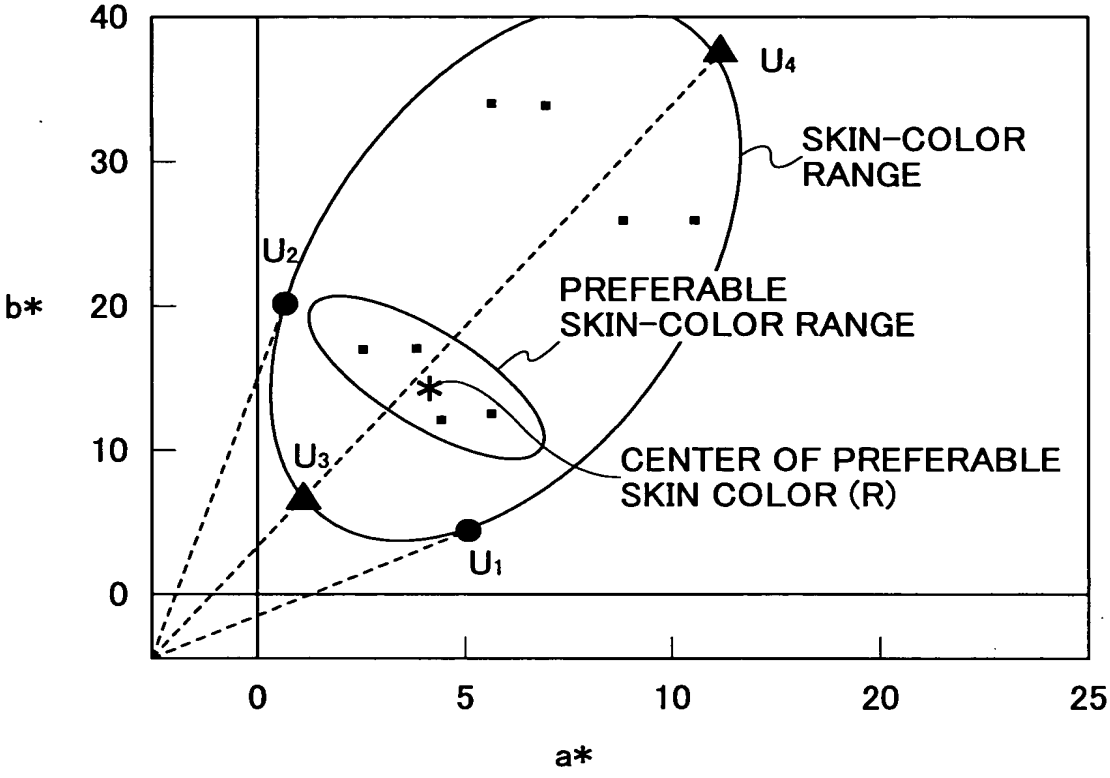

40
30
20
10
0
b*
0
5
10
20
25
a*
U4
U2
U3
U1
SKIN-COLOR RANGE
PREFERABLE SKIN-COLOR RANGE
CENTER OF PREFERABLE SKIN COLOR (R)

FIG.4A

FIG.4B

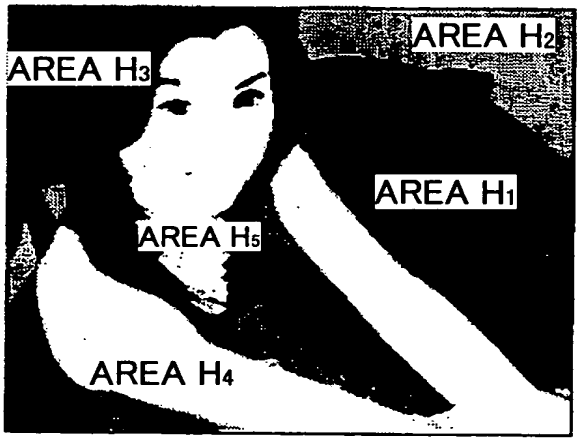


FIG.5

AREA	L^*_{ave}	a^*_{ave}	b^*_{ave}	ΔS[%]
H_1	63.41	3.259	−17.3	29.5
H_2	70.19	4.715	−2.95	2.2
H_3	21.61	12.94	13.13	14.4
H_4	66.63	10.03	15.38	26
H_5	69.32	20.25	19.53	10.2
⋮	⋮	⋮	⋮	⋮
H_h	*	*	*	*

FIG.6

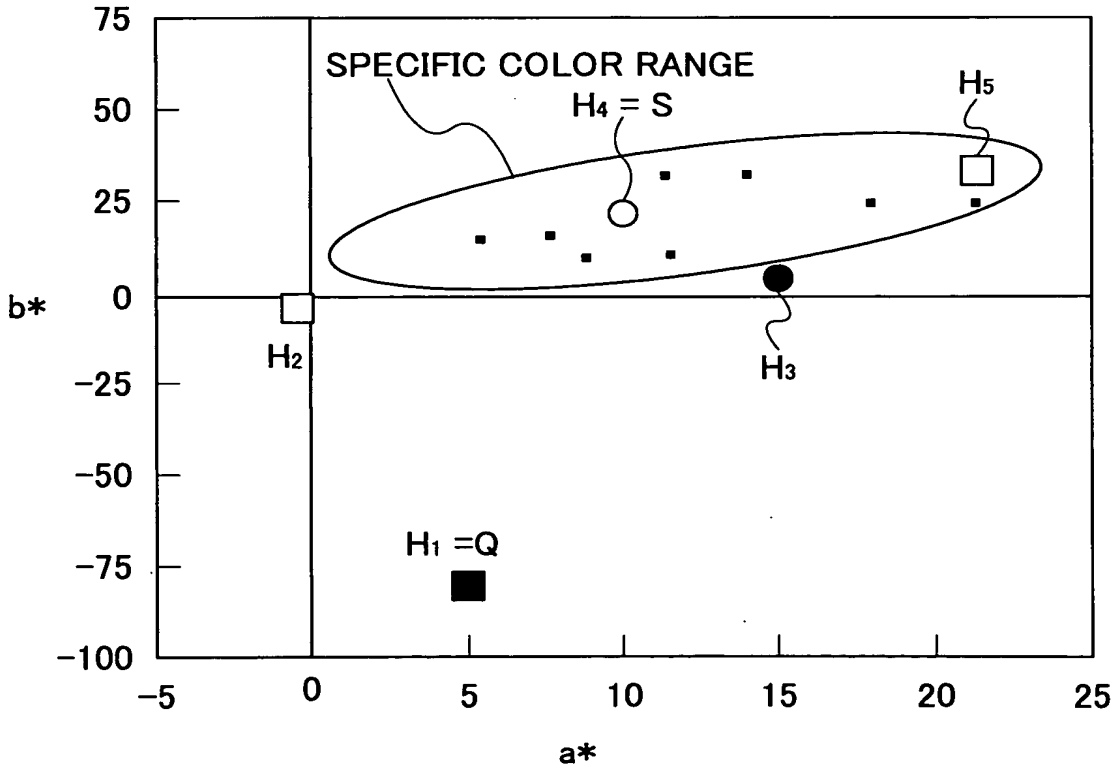


FIG.7

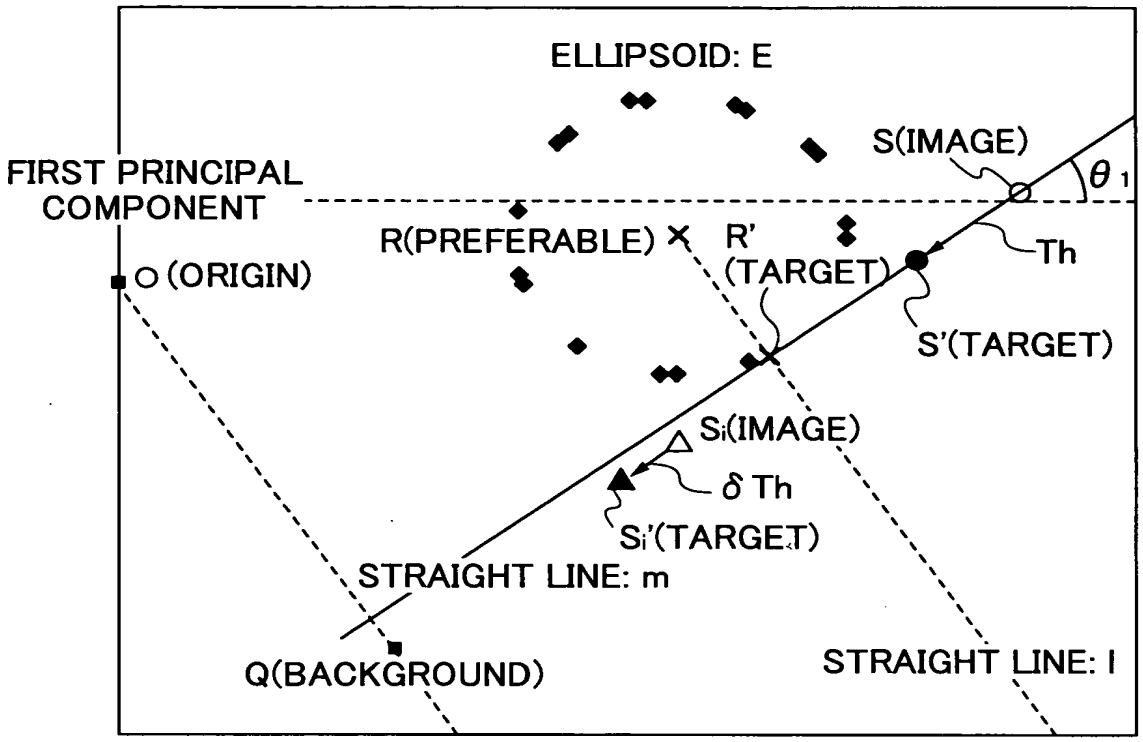

ELLIPSOID: E
S(IMAGE)
θ1
FIRST PRINCIPAL COMPONENT
R(PREFERABLE)
R'
(TARGET)
Th
O (ORIGIN)
S'(TARGET)
Si(IMAGE)
δ Th
Si'(TARGET)
STRAIGHT LINE: m
Q(BACKGROUND)
STRAIGHT LINE: l

FIG.8

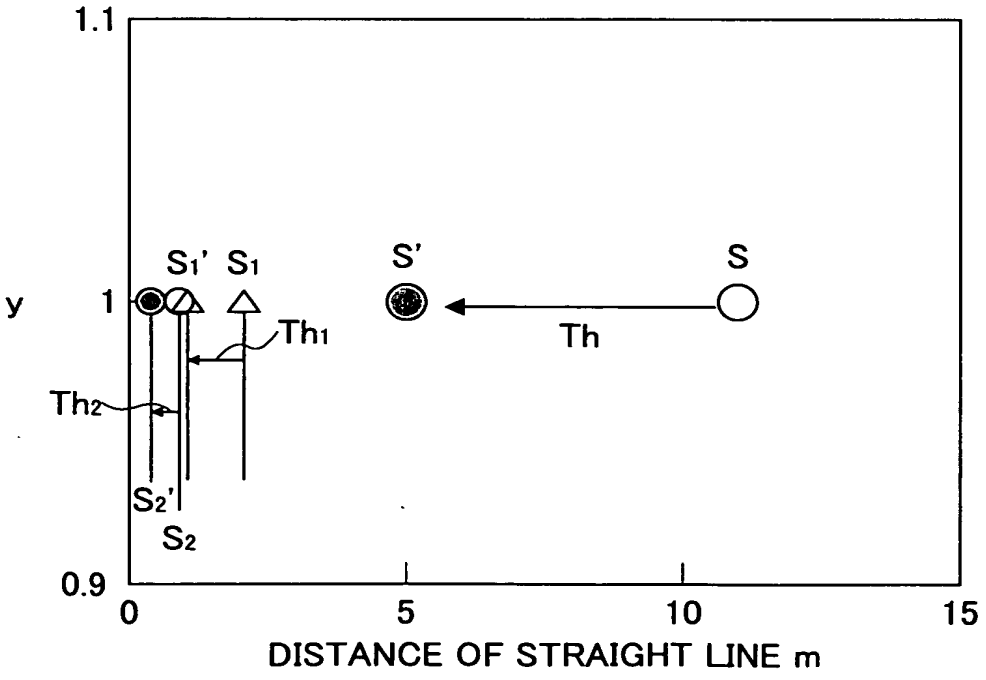

1.1
y
1
0.9
S1'
S1
S'
S
Th1
Th
Th2
S2'
S2
0
5
10
15
DISTANCE OF STRAIGHT LINE m

FIG.9

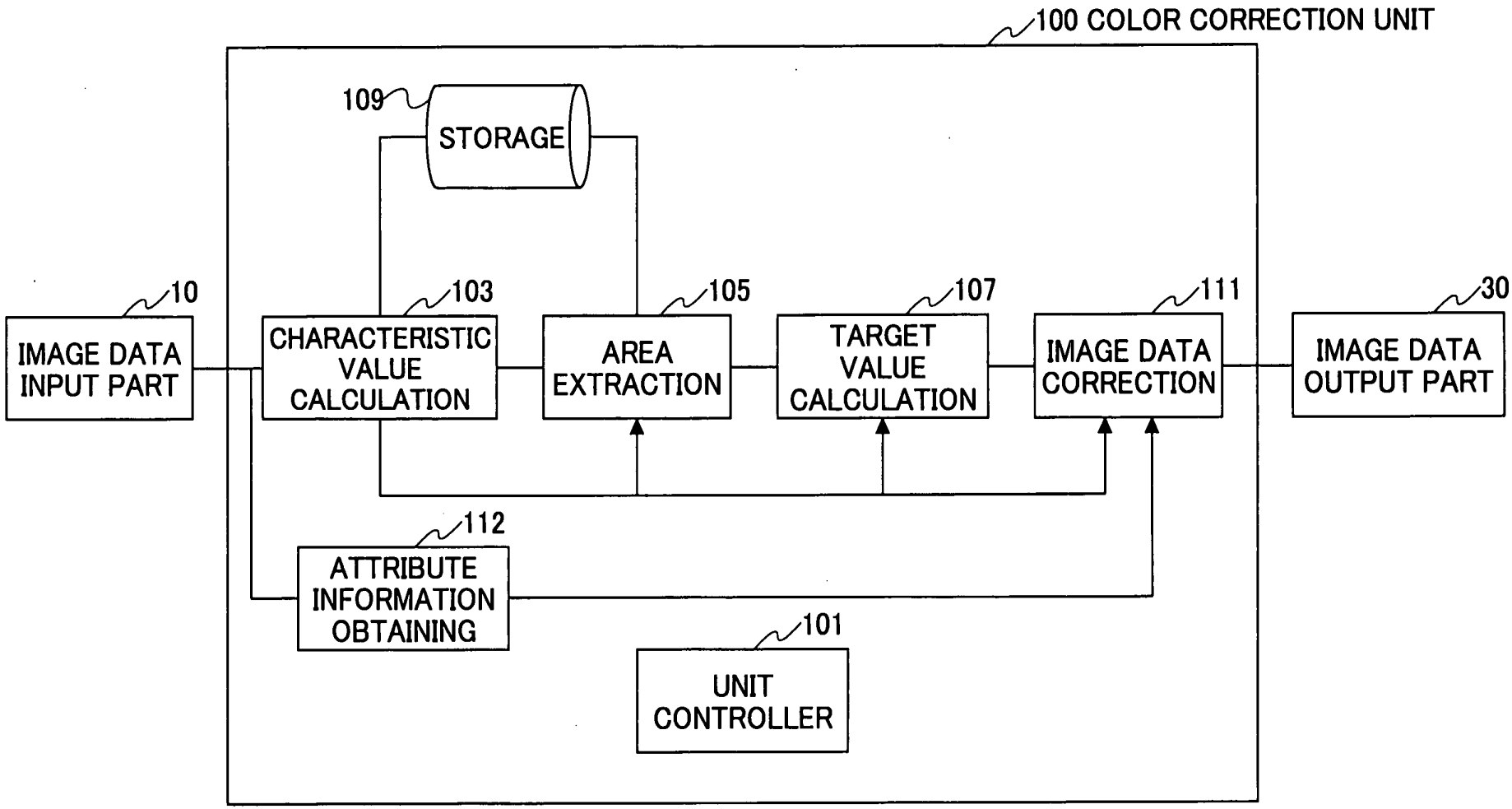

100 COLOR CORRECTION UNIT
109
STORAGE
10
IMAGE DATA INPUT PART
103
CHARACTERISTIC VALUE CALCULATION
105
AREA EXTRACTION
107
TARGET VALUE CALCULATION
111
IMAGE DATA CORRECTION
30
IMAGE DATA OUTPUT PART
112
ATTRIBUTE INFORMATION OBTAINING
101
UNIT CONTROLLER

FIG.10

CLASSIFICATION	TAG NAME	TAG NO. (HEX)
A. VERSION	Exif VERSION /SUPPORTED FLASHPIX VERSION	9000 /A0000
B. IMAGE DATA CHARACTERISTICS	COLOR SPACE INFORMATION	A0001
C. CONFIGURATION	MEANING OF EACH COMPONENT /IMAGE COMPRESSION MODE /VALID IMAGE WIDTH /VALID IMAGE HEIGHT	9101 /9102 /A002 /A003
D. USER INFORMATION	MANUFACTURER NOTES USER COMMENTS	37500 /37510
E. RELATED FILE	RELATED AUDIO FILE	40964
F. DATE AND TIME	DATE AND TIME OF ORIGINAL DATA GENERATION /DATE AND TIME OF DIGITAL DATA GENERATION ••• ETC.	36867 /36868 •••
G. PICTURE-TAKING CONDITIONS	EXPOSURE TIME /F NUMBER /SHUTTER SPEED /WHITE BALANCE /SCENE CAPTURE TYPE /FLASH •••	33434 /33437 /37377 /41987 /41990 /37385 •••

FIG.11

SCENE CAPTURE TYPE	TYPE	α_{SCENE}
STANDARD	0	1.00
LANDSCAPE	1	0.80
PORTRAIT	2	1.30
NIGHT SCENE	3	0.00
OTHER	RESERVED	RESERVED

FIG.12

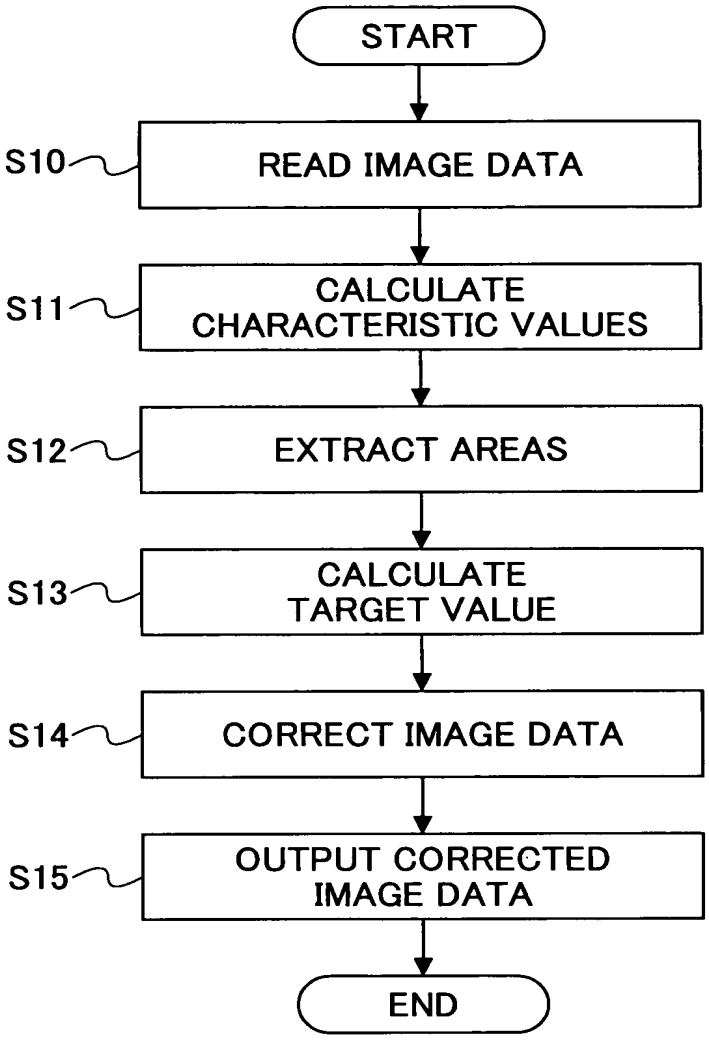

START
S10
READ IMAGE DATA
S11
CALCULATE CHARACTERISTIC VALUES
S12
EXTRACT AREAS
S13
CALCULATE TARGET VALUE
S14
CORRECT IMAGE DATA
S15
OUTPUT CORRECTED IMAGE DATA
END

FIG.13

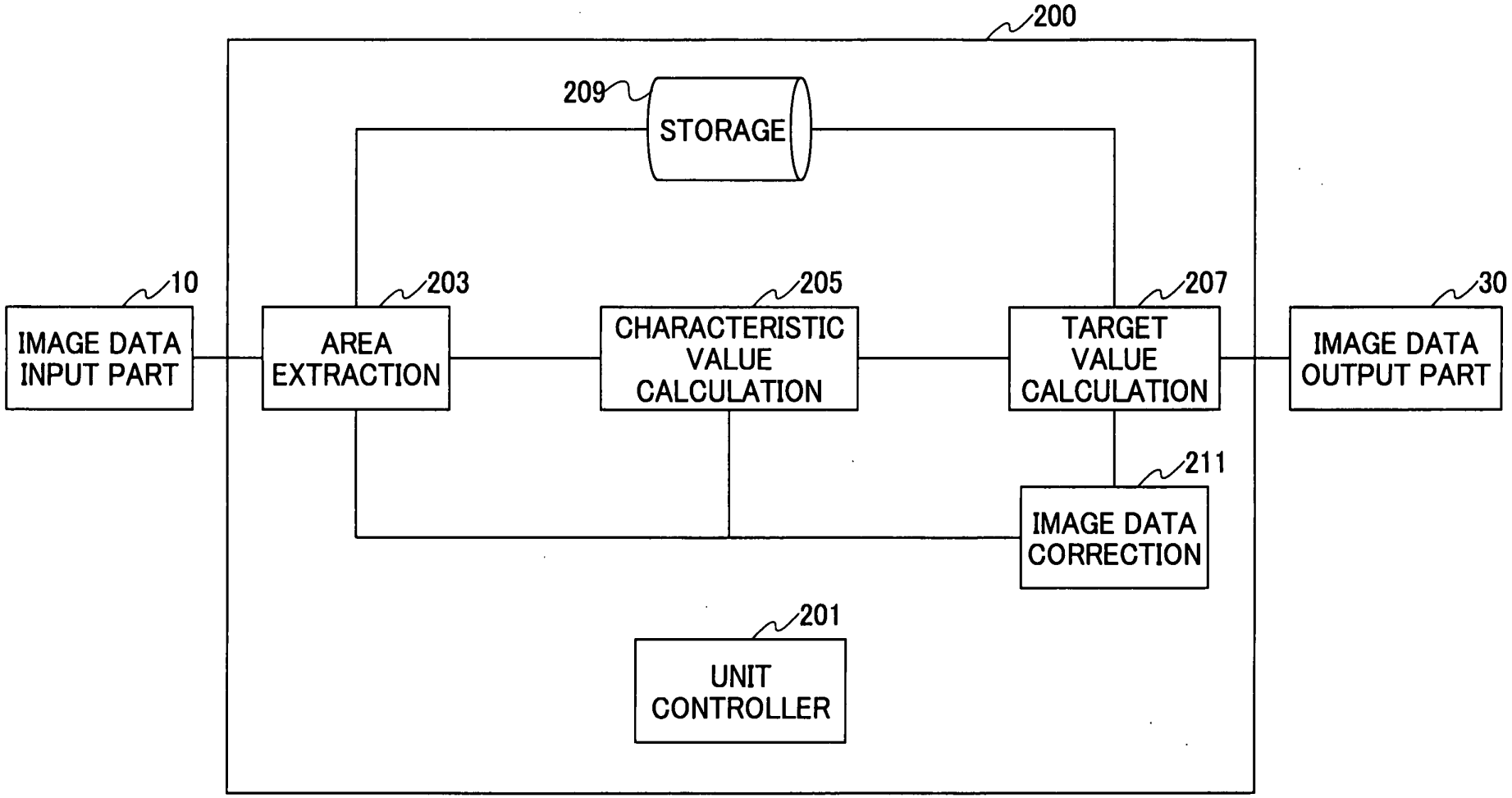

200
209
STORAGE
10
IMAGE DATA INPUT PART
203
AREA EXTRACTION
205
CHARACTERISTIC VALUE CALCULATION
207
TARGET VALUE CALCULATION
30
IMAGE DATA OUTPUT PART
211
IMAGE DATA CORRECTION
201
UNIT CONTROLLER

FIG.14

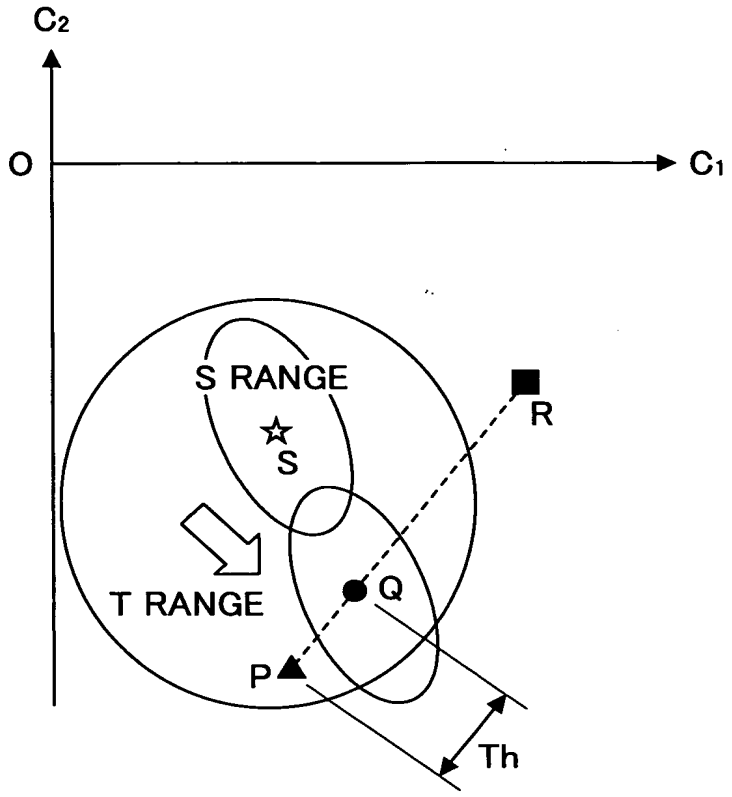


FIG.15A

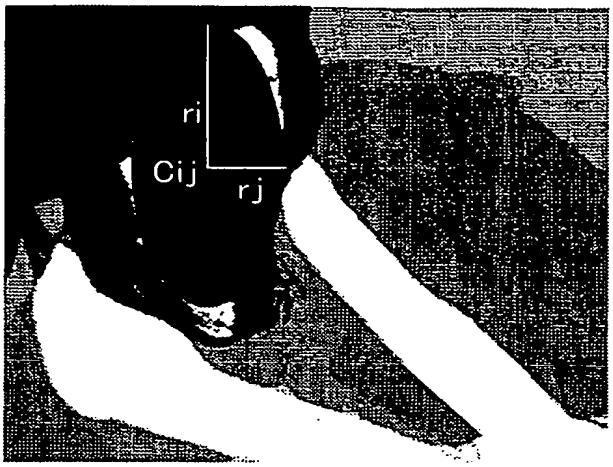


FIG.15B

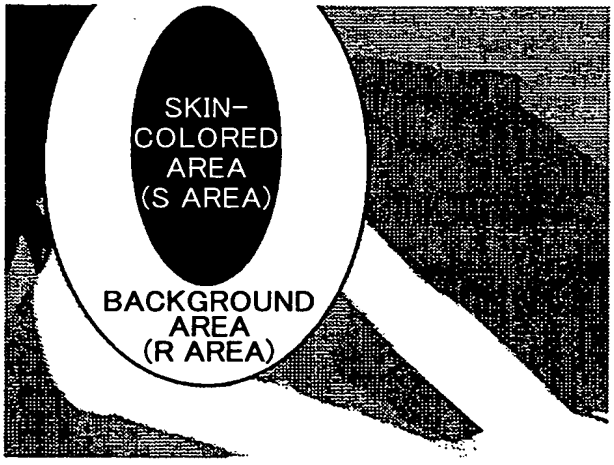


FIG.16

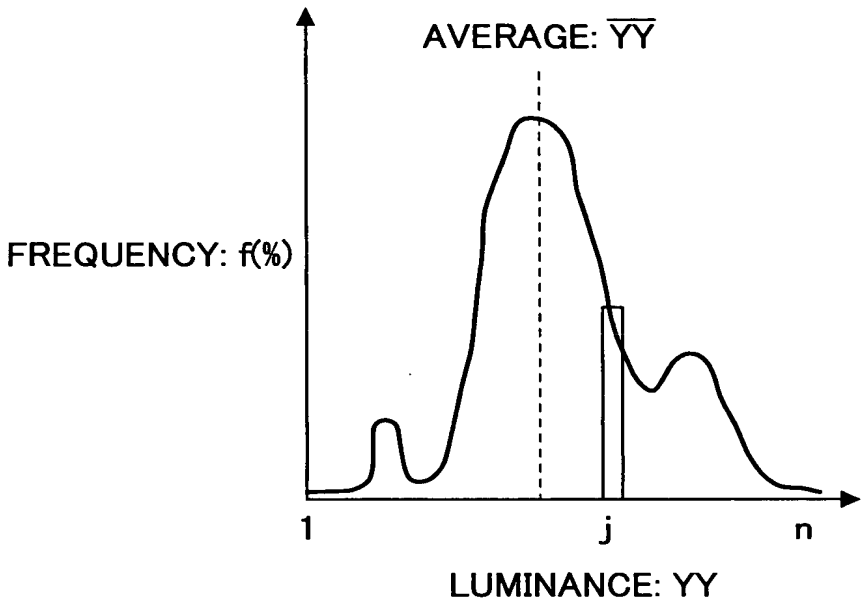

AVERAGE: $\overline{YY}$
FREQUENCY: f(%)
1
j
n
LUMINANCE: YY

FIG.17

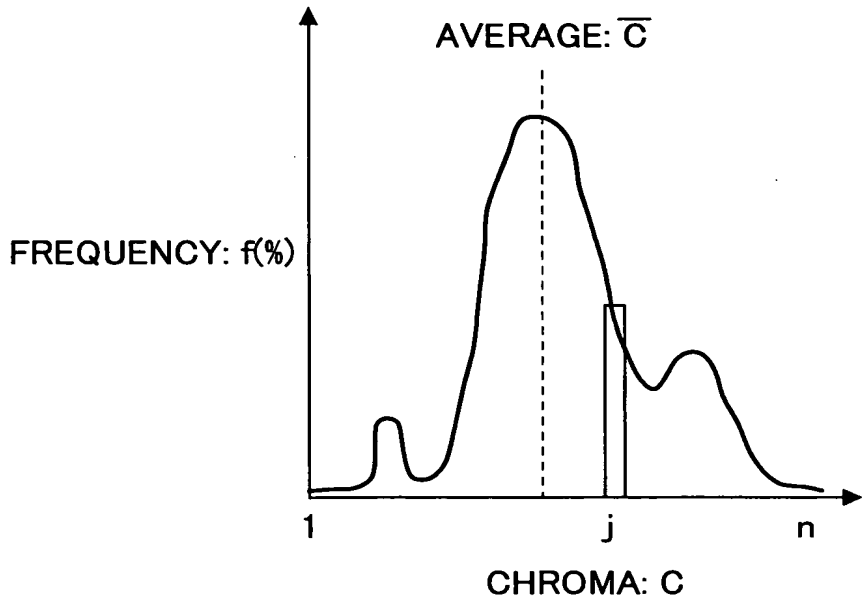

AVERAGE: $\overline{C}$
FREQUENCY: f(%)
1
j
n
CHROMA: C

FIG.18

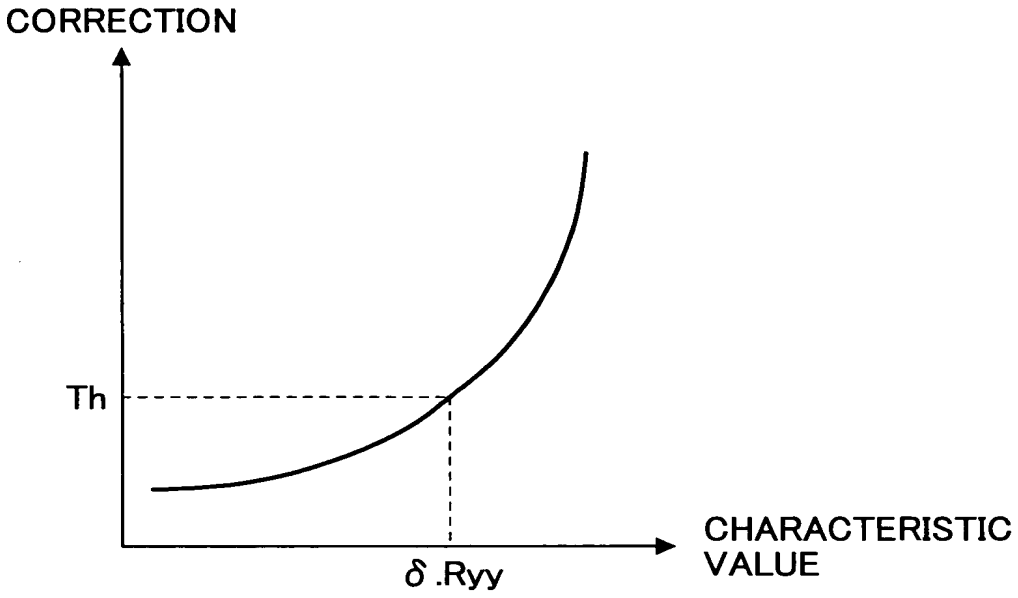

CORRECTION
Th
δ .Ryy
CHARACTERISTIC VALUE

FIG.19

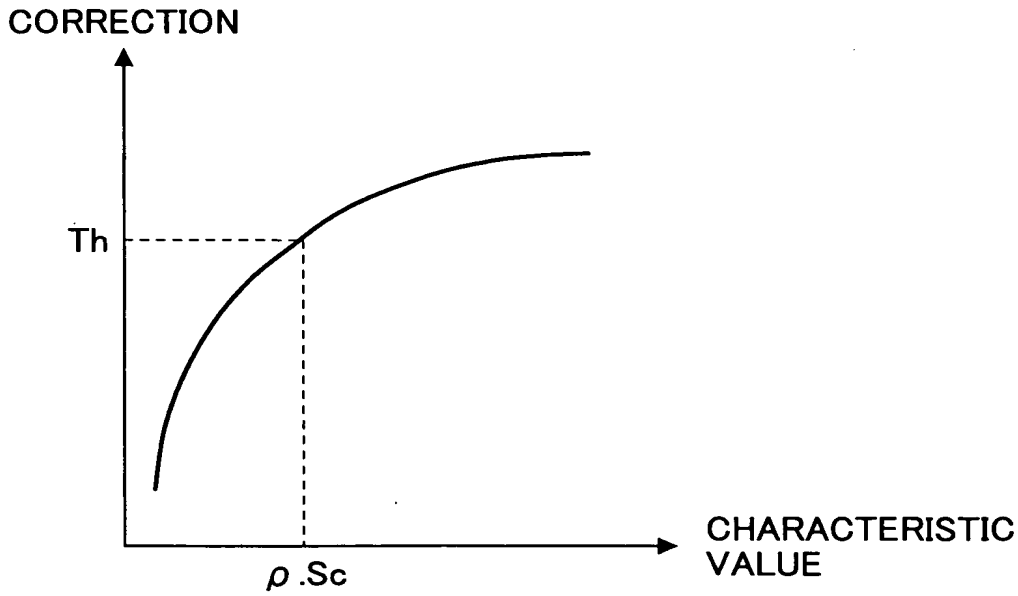

CORRECTION
Th
ρ .Sc
CHARACTERISTIC VALUE

FIG.20

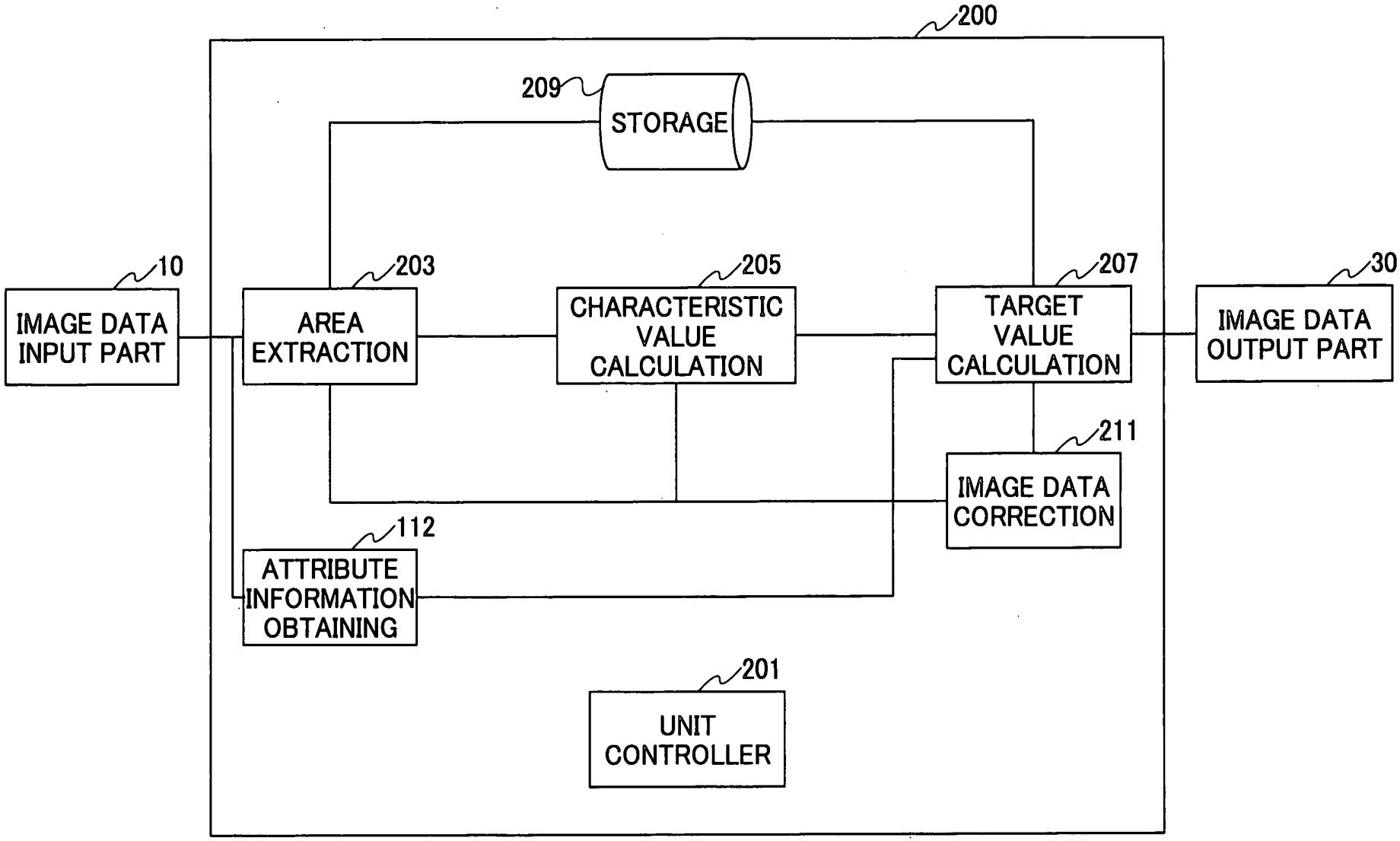
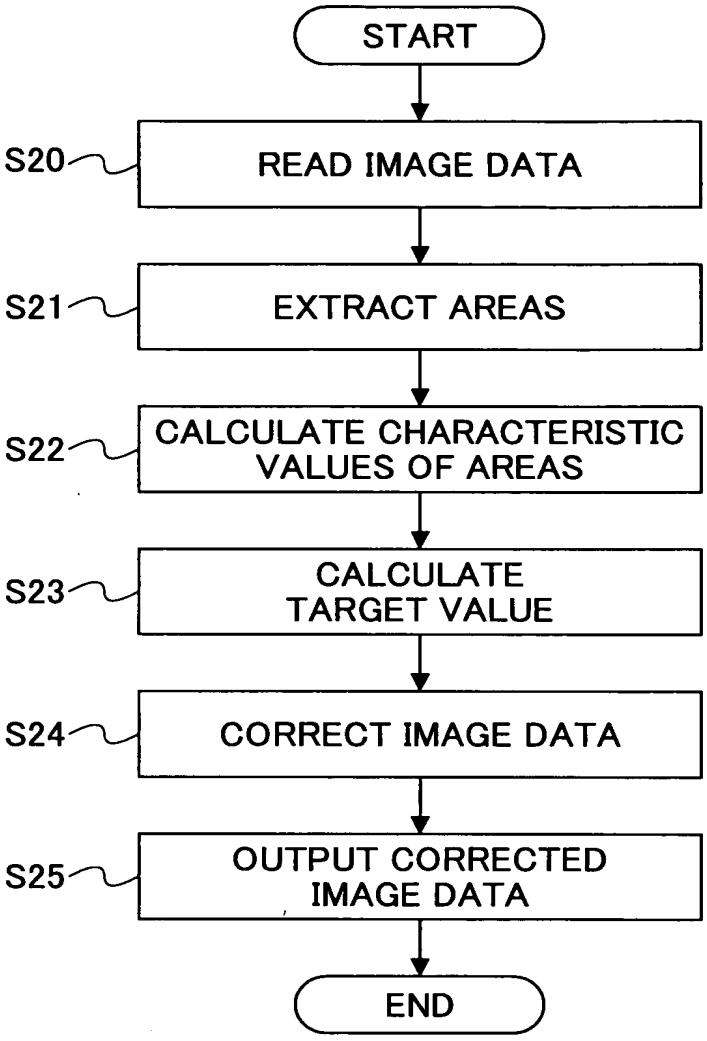

200
209
STORAGE
10
IMAGE DATA INPUT PART
203
AREA EXTRACTION
205
CHARACTERISTIC VALUE CALCULATION
207
TARGET VALUE CALCULATION
30
IMAGE DATA OUTPUT PART
211
IMAGE DATA CORRECTION
112
ATTRIBUTE INFORMATION OBTAINING
201
UNIT CONTROLLER

FIG.21

SCENE CAPTURE TYPE	TYPE	CORRECTION FACTOR
STANDARD	0	0.10
LANDSCAPE	1	0.20
PORTRAIT	2	0.50
NIGHT SCENE	3	0.00
⋮	⋮	⋮

FIG.22


START
S20
READ IMAGE DATA
S21
EXTRACT AREAS
S22
CALCULATE CHARACTERISTIC VALUES OF AREAS
S23
CALCULATE TARGET VALUE
S24
CORRECT IMAGE DATA
S25
OUTPUT CORRECTED IMAGE DATA
END